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Radiographical Diagnosis of Bone Tumours with Special Reference to Osteomyelitis

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In the course of over 15 years' experience as a radiographer I have experienced considerable difficulty in labelling many of the cases of bone disease presented, and there is no doubt that an extraordinary confusion exists concerning this matter. It is high time that the subject should be pursued, ventilated and clarified, in the interests not only of the patient but of its owner and its veterinary attendant.

Being aware that Dr. Innes had devoted much time to the study of neoplasms, as evidenced by his publications [1], [2], [3], I recently entered into a very lengthy and interesting correspondence with him. In the course of one letter he frankly stated that without a subsequent histological examination it was most unwise to attempt to diagnose a bone tumour either clinically or radiographically. Granted. But my object in drafting this article is to discuss the radiographic features of these bone diseases quite apart from any surgical interference in life, or from *post-mortem* examination. It is notoriously difficult to get possession of the carcases in very many instances; and there are occasions upon which the radiological expert never sees the patient, but is asked merely to express an opinion upon films submitted. I feel convinced that this should be possible, for there is no doubt that the various bone tumours do present features in an X-ray film which are sufficiently constant for a clinical classification to be made. Biopsy and autopsy are quite frequently not permitted, and some cases are seen but once.

To be able to advise one's colleague, or an animal owner, on the spot, as to the nature or type of tumour under discussion, certainly means something as regards malignancy and prognosis. Schnelle, of Boston, has made a considerable study of bone tumours in animals and has published several long illustrated articles in *The North American Veterinarian*.[4] He does not hesitate to apply a legend to each radiograph, as he finds the same pictures crop up again and again and knows always that he is dealing with a certain type of growth, and what to expect from it.

Dr. Innes took me to task for labelling Figs. 1 and 2 as myelogenic sarcoma. My reasons for this designation were that the fluid in the swelling was in direct communication with the medulla of the radius, the cortex of which had become entirely eroded; that by the time the radiograph was taken, six weeks had elapsed since the subject (a greyhound) had returned home injured after jumping a fence[5]. Innes has stated that the element of trauma bulks very largely in the causation of myeloid tumour. Dorland's "Medical Dictionary" defines a myelogenic sarcoma as one involving the bone marrow. This case seemed to do so; in fact it differed very much from the subject of Fig. 10, where we see that the cortical erosion is commencing from the outside (at *a*).

In the light of subsequent cases which have come to hand showing similar X-ray appearances, and in one of which it was possible to make *post-mortem* examination (Figs. 3 and 4), I am prepared to-day to believe that the subject of Fig. 1 was a telangiectatic osteosarcoma.

The legend under one of the figures in French's "Index of Differential Diagnosis" (page 823) states "Myelogenic sarcoma of the lower end of the femur showing the appearances after the tumour, arising centrally, has expanded the bone until ultimately the neoplasm erodes its way beyond the confines of the original bone." In the text of the book he says, "Myelogenic sarcomata are slow in growth; are prone to affect the ends of long bones and the upper jaw; a uniform swelling appears giving rise to pain; the swelling is at first hard, but as the shell of bone yields, softening occurs. The lymph glands are not enlarged and metastases do not occur.

Holmes and Ruggles' "Roëntgen Interpretation" also illustrates what the caption calls an "*undifferentiated*" *sarcoma*, the process of which is purely destructive; this radiograph seemed very similar to my Fig. 1. No new bone tissue had occurred in either case. Decalcification is the prominent feature of the active growth; and Innes regards vascularity of these tumours as incidental.

By way of final reference to Fig. 1, Innes concluded one letter by asking how I knew I was in fact dealing with a tumour? In reply, one could not conceive an ordinary abscess, haematoma or contusion causing such complete devastation to dense bone tissue as occurred here. Myelitis would have been accompanied by constitutional disturbance. What but a malignant influence could effect such erosion?

Very soon after this correspondence, as cases of bone disease continued to be presented at my surgery, I raised the whole matter at a clinical discussion of the Central Veterinary Society in October, 1944. I exhibited a radiograph (Fig. 3) of a 12-year-old collie's humerus which I thought depicted a case of osteosarcoma, and expressions of opinion were invited; but there was no unanimity and the discussion was deferred.

The unusual feature about the film was the presence of a transverse fracture, and the question arose whether trauma, possibly responsible for the latter, was the exciting cause of the graver bone lesion, or whether a bone disease with eventual cortical rarefaction permitted of a subsequent spontaneous fracture. Opinions favoured the second theory.

The history of the case was that a month previous to my examination the dog had run out into the garden and returned lame. Little notice was taken of it and gradual resolution and soundness appeared to have occurred during the next two weeks. Then the dog suddenly fell very lame, finally refusing to use the limb. There was definite swelling and heat below the shoulder joint but not much tenderness and no constitutional disturbance. The practitioner in charge then asked for a radiographic examination, which I duly performed.

Scrutiny of the film (Fig. 3) reveals that there is a very pronounced erosion of the cortex and medulla, terminating some half inch below the site of a fracture on the posterior aspect of the bone. In addition there is a periosteal proliferation on the posterior surface running parallel with the shaft for two inches in length and a quarter inch in depth at its thickest part. The soft tissue swelling was not evident on the film.

I formed a first conclusion that this was a fairly early stage of osteosarcoma (fibrocellular variety) and expected that in subsequent films one might have seen some "ray" formation (radiating calcified spicules) characteristic of that type of this lesion; or it *might* have been an endothelial myeloma (Ewing's tumour).

Discussion arose as to its true nature and two eminent speakers considered the case was probably one of osteomyelitis. (They were subsequently proved to be wrong.) From my recollection of the skiagraphs of other workers, which depicted osteosarcoma, I was inclined to believe that my exhibited film was in many ways identical with the latter, and thus rather opposed the assumption of osteomyelitis.

Later, I searched the literature for a description of the X-ray appearance of osteomyelitis and was surprised at the extraordinary paucity of information obtainable from veterinary textbooks, not even excepting Hutyra and Marek. Even several excellent and up-to-date medical works in my possession hardly mention the disease. But from Holmes and Ruggles[6] I culled this lucid description: "The characteristics of a pyogenic process are: (*a*) A variable amount of destruction of medulla and cortex. (*b*) An extensive reaction of the periosteum whenever involved. (*c*) Sequestration and irregular sclerosis. (*d*) It may attack any bone at any age, but it rarely extends beyond the epiphyseal line. (*e*) The process may exist one or two weeks without producing any changes whatever in the shadow of the affected bone, and then areas of diminished density will appear at the site of involvement. (*f*) Proliferation of the periosteum occurs as a result of irritation beneath it and may become extensive as more of the bone is involved, leading ultimately to the formation of a shell of new bone—the involucrum—about the necrotic mass of the old shaft, which then becomes a sequestrum. (*g*) The process may involve only a portion of the shaft, in which case a variable amount of irregular sclerosis appears about the affected area, and small sequestra may be seen. Two atypical forms are the virulent or fulminating type, and the non-virulent bone abscess. (*h*) The former may give very little roëntgen evidence or it may show extensive irregular rarefaction throughout the bone, with elevation and thickening of the periosteum but no sclerosis or new bone formation. The clinical picture is obvious. (*i*) The non-virulent type shows a circumscribed area of rarefaction in the medulla, generally surrounded by a wall of increased density, and with a variable amount of proliferation of the overlying periosteum, depending upon the depth of the lesion. The new bone may attain considerable thickness in long standing lesions and it is often laminated. This appearance has been mistaken for malignant disease of bone."

Savill's "Clinical Medicine" says that "The pain of osteomyelitis is of a severe character, coming on suddenly and attended by extreme tenderness; starting near the articular end of bone, followed in a day or two by swelling of the limb and inflammation. The constitutional symptoms (in humans) come on suddenly and are very marked; temperature high with rigors and prostration. If the patient survives the initial constitutional disturbance, the malady leads to abscess, necrosis and long convalescence. Frequent complications are pyaemia and extension of the inflammation to a joint. Acute osteomyelitis is usually a disease of the young."

Let us now see how the characters of the case observed in the collie (Fig. 3) coincide with the features just described. They agree as concerns the above-quoted remarks relative to (*a*), (*b*), (*d*) and (*h*) and partly with (*f*) and (*g*). They differ from (*c*) in that no sequestration or irregular sclerosis were observable, also partly from (*f*) and (*i*) in that there was no shell of new bone except on one surface of the humerus.

So far as symptoms were concerned, contrary to Savill's description, the dog seemed to exhibit no sign of great pain, nor were there any constitutional disturbances. The malady did, however, start suddenly and there were heat and swelling at the site. Thus, on the whole one is obliged to admit that after making allowances for varied radiographic appearances at different stages of the disease, one might have been justified in arriving at a diagnosis of osteomyelitis.

We might then proceed to compare the radiograph (Fig. 3) with one depicting endothelial myeloma (or Ewing's tumour) which is common in the tibia and fibula of man, and which resembles an osteosarcoma so nearly that it is probably often diagnosed as such. In an endothelial myeloma there is much cortical destruction, but much more periosteal new bone formation which may partially or completely surround the tumour. Radiating bone spicules may be found in these also, and the process may be confused with osteomyelitis because of intermittent swelling, pain, heat, temperature and leucocytosis. It will be seen that little variation exists between the features of Fig. 3 and those of endothelial myeloma just described.

A further comparison may be made with what is known as the "undifferentiated" type of osteosarcoma, brief details of which will be later described.

It was with unanticipated good fortune that the subject of Fig. 3 was brought ten weeks later for a further radiograph, when the lesion measured six inches in each direction. Reference to Fig. 4 will show that quite half of the humeral shaft had disappeared. A thin streak of calcified tissue can be seen in the fleshy swelling anterior to the diaphysis. Upon this evidence the owner consented to destruction of the dog, and Dr. Hare's pathological report was as follows:—

"Dissection of the swollen upper half of the right fore limb of the 12-year-old collie revealed a fusiform-shaped cystic mass surrounding the greater part of the diaphysis of the humerus. Neither epiphyses or joints were involved. On sagittal section the lesion comprised a single fusiform cavity filled with blood clot and necrotic tissue of a paint-like consistency and three small fragments of dead bone. At the centre, only 1·8 cm. of the proximal end of the diaphysis of the humerus remained; and of the 7·5 cm. of the distal end of the diaphysis, 5·0 cm. were dark brown sequestrum. I estimate that approximately 5·7 cm. of the diaphysis had been completely destroyed. The medullary cavity of the surviving diaphysis was filled with a grey to pink-coloured soft and friable new growth which extended as a thin layer around the central mass of blood and necrosis. From this thin layer delicate and ragged shreds of the new growth extended into the central mass; while externally the layer of new growth was incorporated in the outer covering of infiltrated and atrophic muscles and fascia. The subcutaneous tissue surrounding the lesion was gelatinous and oedematous. The skin was intact.

"Histologically the tumour proved to be a highly malignant telangiectatic osteogenic sarcoma (malignant bone aneurysm) which was composed mainly of hyperchromatic spindle cells and a relatively smaller number of polyhedral cells lining blood channels and sinuses. The muscles on the periphery of the tumour were atrophic and infiltrated by the malignant cells."

Dr. Hare concluded his report by stating

"I can imagine the clinician's difficulty in diagnosing this telangiectatic tumour which essentially is a sac of blood, soft tissue and rapidly necrosed bone. There is no bony spiculation radiating from the diaphysis towards a lifted periosteum as usually seen in the subperiosteal osteogenic sarcoma; in this tumour the periosteum is destroyed along with the diaphysis. The destruction of the diaphysis probably accounted for the spontaneous fracture occurring at the patient's first exhibition of lameness on returning from the garden."

Romanis and Mitchener[7] remark that osteosarcomata are manifested as a rapidly growing spherical or fusiform mass; *spontaneous fracture often occurs in the case of sarcoma of bone and is not infrequently the first sign of the presence of the growth.* This occurred in the case of the collie. It has been my own definite experience that bony tumours do arise and develop very rapidly in a large proportion of cases. Lameness was sudden in the greyhound (Fig. 1) and in the collie (Fig. 3), in the case recorded in my own book[8] of fibrocellular osteosarcoma (Fig. 7) and in my most recent case in a six-year-old Great Dane (Fig. 5). The lesions in all these cases had attained very advanced dimensions within from two to six weeks.

In attempting to arrive at an X-ray diagnosis of bone sarcoma one has to bear in mind that there are several varieties of this neoplasm and that different varieties, in various stages of their development, may simulate other conditions rather closely and may easily lead even experts into error. It is commonly heard on all sides, when discussing osteosarcoma, that its fundamental characteristics are egg-shell crackling under digital pressure, and the presence of radiating calcified spicules in a film. This is an erroneous impression for it is probably only in the fibrocellular (or periosteal) osteosarcoma that such features would be found.

All osteosarcomata may be osteoblastic or osteolytic or both. They occur as single lesions in the shafts of long bones and do not exhibit the tendency to invade the whole of the bone as some cases of osteomyelitis may do. They are supposed to be found mostly in the young animal, but my experience has been quite the reverse. They can, however—like osteomyelitis—attack animals of any age. It is curious that their activity ends as cartilage or a joint is approached. They destroy the cortex of involved bone, early invading the surrounding soft tissue, producing a soft-tissue tumour visible on a film.

Clinically, there are four main types of osteosarcoma, *viz.*:—

(*a*) *Fibrocellular* (often called periosteal) which arises in the inner layers of the periosteum (leaving the latter externally placed) and extending along and enclosing the shaft. It remains encapsulated by the periosteum for varying periods. The roëntgen appearance in the early stages is that of slight erosion and mottling of the affected cortex, surrounded by a soft tissue swelling which is quite suggestive of a commencing osteomyelitis. With increase in the size of the tumour, the erosion of the cortex increases and periosteal proliferation becomes evident at the limits of the growth upon the shaft. This is a very characteristic finding. Strands of calcified material are seen radiating outwards through the tumour producing the so-called "ray formation." Fig. 7 is an example, of this type of tumour, though in this the ray formation is only feebly present. Figs. 5 and 6 are further examples of the same type of lesion, but only two weeks old.

This group appears to be further divided into those which show more medullary involvement and which may contain a mixture of cartilage or mucoid material. They are then classified as chondro- or myxosarcomata. It is thus open to conjecture whether Fig. 1 (believed at first to be a myelogenic sarcoma) might in fact have been a myxosarcoma, as the soft adjacent swelling was possibly distended with a serous or mucoid fluid. At this late stage, however, comparing it with Fig. 4 and having received a pathological report upon that case, one can find no grounds for resisting the belief that it was, after all, possibly telangiectatic.

(*b*) The *telangiectatic* osteosarcoma involves the marrow cavity, cortex and periosteum and is characterised by extensive development of blood vessels throughout the growth, and is the form which may even pulsate. There is considerable absorption of bone and the lesion advances rapidly.

(*c*) The *sclerosing* type usually produces dense bone within the tumour, so that in typical cases a mass of ivory-like density obliterates the marrow cavity, and produces a fusiform swelling about the shaft. An example will be seen in Fig. 8. Finally, there is an (*d*) *Undifferentiated* group which is entirely osteolytic. In a radiograph this type shows only a *loss* of substance and no bone proliferation. Histologically, they are said to be composed of round cells which show no tendency to produce any definite structure. The characters of Figs. 1 and 9 would seem to conform to this description and leave one still in some doubt as to the correct interpretation of those films.[9]

The microscopic classification, of course, divides them all into round-celled, spindle-celled, giant or mixed celled, and melanotic sarcomata. Probably these differences will concern mostly the degree of metastatic tendency of each; and from the practitioner's point of view the best classification is the clinical one as outlined above.

Thus the reader will appreciate, as I do, how intermixed are the characters of several bone diseases as visualised on a radiograph. In view of the importance, from a practitioners' point of view, of being able at once to classify the conditions revealed by X-rays, I would be grateful if any radiologist would join the discussion and state what—in his opinion—are the essential radiographic characters in each case.

Summary

To summarise this article is difficult, but from a purely radiographic standpoint, an attempt has been made to establish:

(1) That osteomyelitis may present radiographic features hardly distinguishable from the telangiectatic or the undifferentiated types of osteosarcoma, in varying stages of each.

(2) That the former would be accompanied by constitutional disturbance, not associated with the latter.

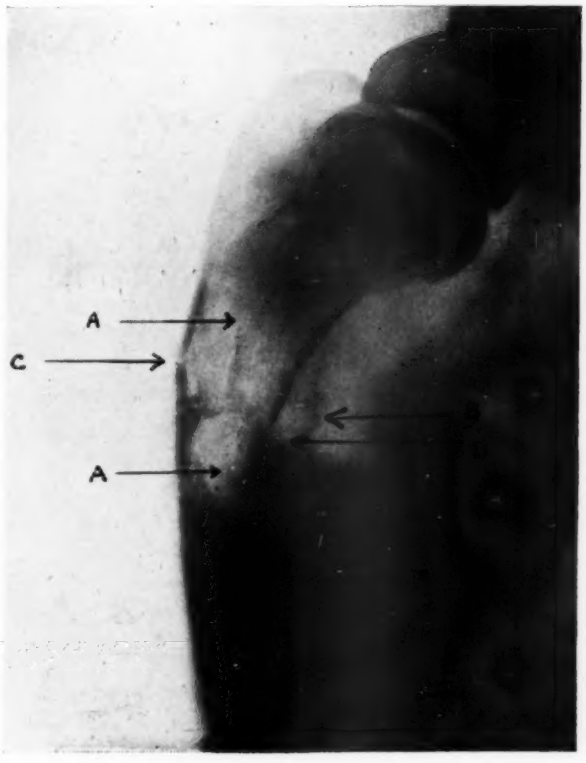
(3) That the radiographic differences between the two conditions would normally appear to be that in osteomyelitis there is *irregular*

1

FIG. 1: OSTEOGENIC SARCOMA.
Radius and ulna of 11-year-old greyhound (ant.-post. view). Appearance six weeks after the first and sudden onset of lameness. Although originally described as myelogenic osteosarcoma, there is still uncertainty as to whether it could more correctly be described as of the telangiectatic variety. in the absence of pathological examination. [For clinical details *vide Vet. Rec.*, June 3rd, 1944, p. 190.]

2

FIG. 2: OSTEOGENIC SARCOMA.
Lateral view of same subject showing complete erosion of anterior cortex of radius, much roughening of its post. surface, and commencing periosteal proliferation.



3

FIG. 3: OSTEOSARCOMA.
Humerus of 12-year-old Collie. Appearance one month after the first and sudden onset of lameness. At that stage there was difficulty in deciding between a diagnosis of osteosarcoma or osteomyelitis, except that the absence of constitutional disturbance probably ruled out the latter.
AA.—Areas of erosion.
B.—Periosteal proliferation.
C.—Upper limit of pathological fracture.
D.—Lower limit of same.

FIG. 4: TELANGIECTATIC VARIETY OF OSTEOSARCOMA.

Same subject as of Fig. 3, radiographed a further ten weeks later, after which the dog was destroyed. Note the complete destruction of much of the humeral shaft, fragments of which are disseminated in the soft tissue. Arrows mark the limits of the growth.

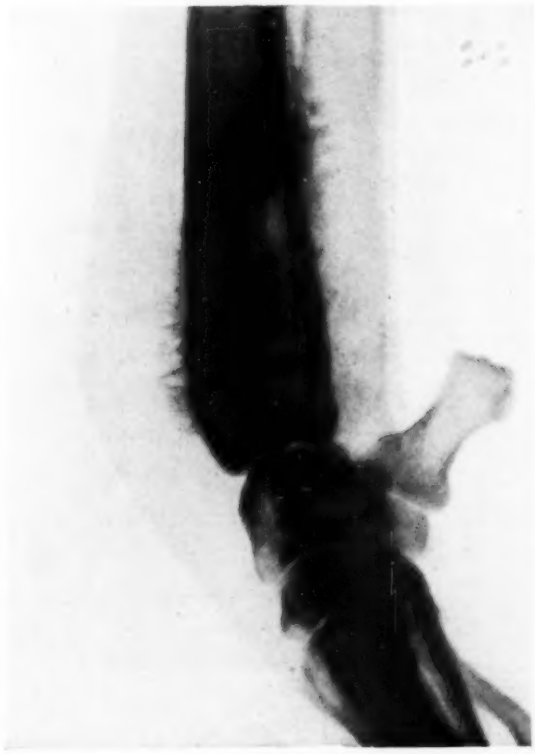
FIG. 5: OSTEOSARCOMA COMMENCING IN RADIUS OF 6-YEAR-OLD GREAT DANE.

Radiograph secured two weeks after the first and sudden onset of lameness. On the third day a hard swelling was noticed. Treated by a quack for sprain. The mottled appearance of compact bone caused by rarefaction and sclerosis, plus the considerable periosteal proliferation, is somewhat suggestive of osteomyelitis. Reference to Fig. 6 rather negatives that idea.
This dog had commenced losing weight some time previously.

FIG. 6: OSTEOSARCOMA.

Lateral view of same clearly showing commencing ray formation.

5



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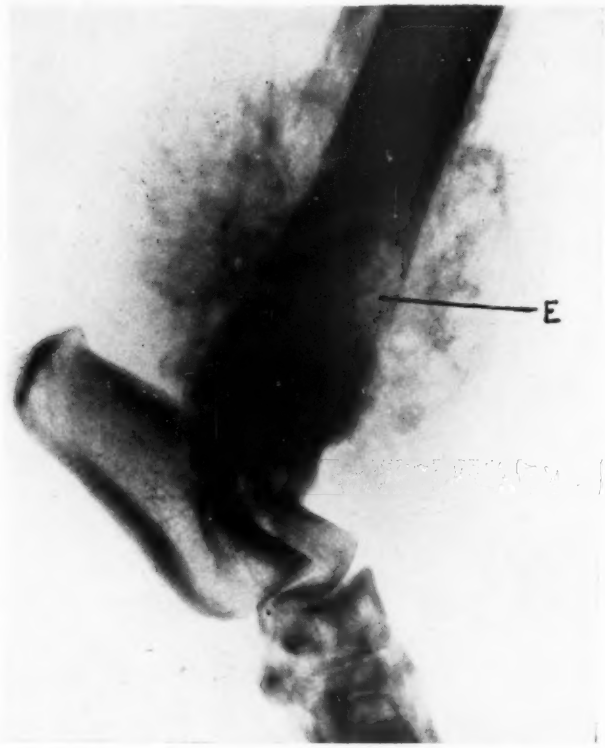

FIG. 7: FIBROCELLULAR (OR PERIOSTEAL) OSTEOSARCOMA OF TIBIA OF A 5-YEAR-OLD GOLDEN RETRIEVER.

Radiographed six weeks after the first symptoms began. Note the increased density of the compact bone; and the rarefaction and destruction at E as a result of neoplastic invasion.

[See *Vet. Rec.*, March 26th, 1938.]

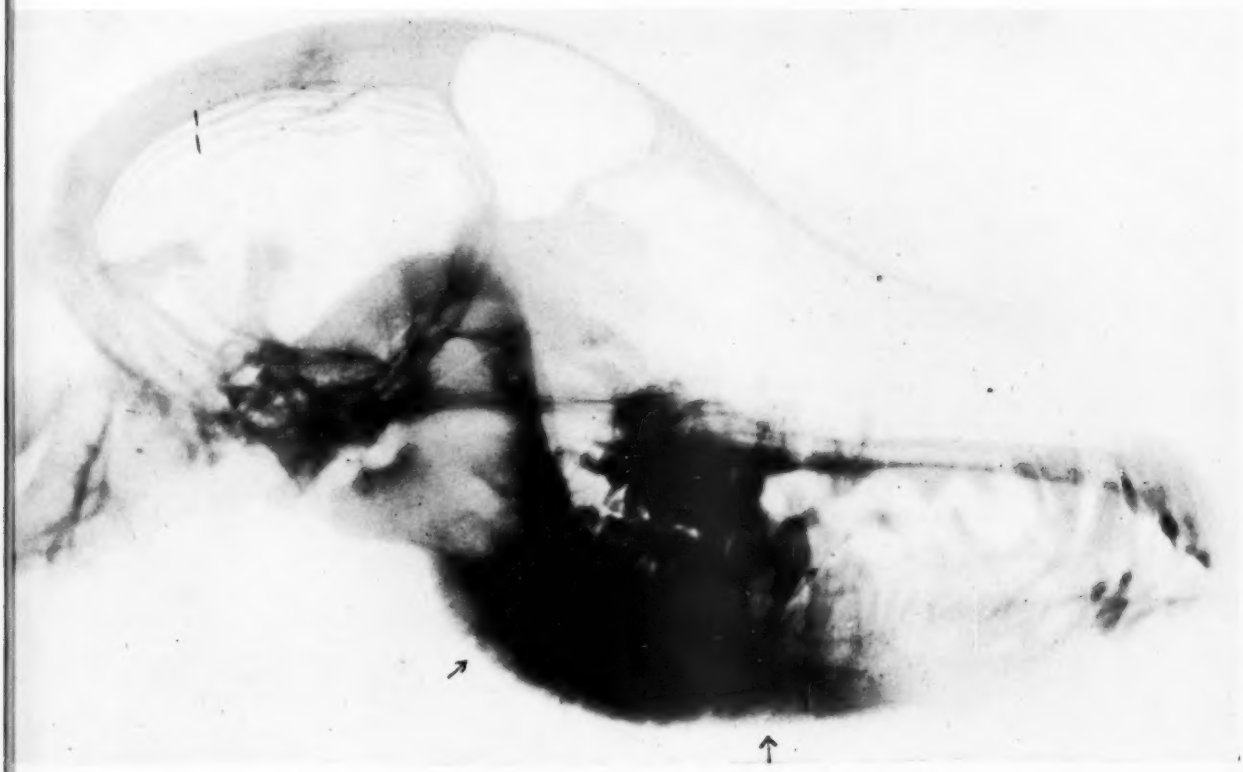

FIG. 8: SCLEROSING OSTEOGENIC SARCOMA OF A DOG'S JAW. [KIRK'S "INDEX OF DIAGNOSIS."]

FIG. 9: OSTEOSARCOMA OF MALAR BONE OF CAT'S SKULL.

Originally this case was reported in *Vet. Rec.*, August 26th, 1944, as probably one of osteomyelitis. Its radiographic similarity with Fig. 4 (proved to be telangiectatic osteosarcoma) now leads the writer to assume that this cat suffered from the same disease. The radiograph was made after the spicules of loose bone had been surgically removed and the cavity of the growth cleaned out. AA mark the limits of the soft tissue. B shows remaining fragments of malar bone. The case was seen two weeks after swelling was observed. Cat was 18 years old.

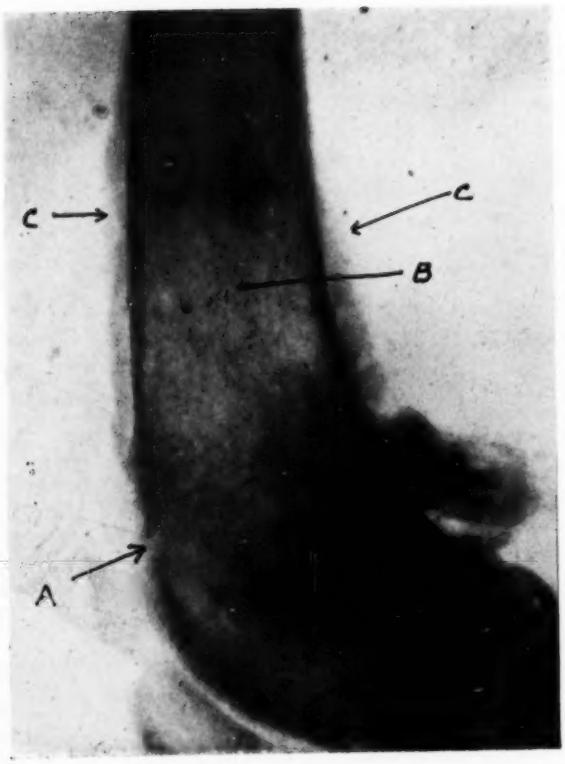

FIG. 10: OSTEOSARCOMA. FEMUR OF A 3-YEAR-OLD IRISH WOLFHOUND.

Radiographed a week after the first and sudden onset of lameness, when a considerable hard swelling could be felt. No tumour formation is revealed by X-ray, but features present are consistent with a diagnosis either of osteomyelitis or osteosarcoma. The lesion was very young and most likely would later have proved to be the latter. Destruction was effected and autopsy not permitted.

A.—Commencing erosion of cortex.

B.—Extensive rarefaction.

C.—Periosteal proliferation.

sclerosis and sequestration with strong tendency to form an involucrum; and that the whole of the shaft may be involved. These points are negative in osteosarcomata. In the latter there is either a dense sclerosis (sclerosing type), a pulsating sanguinous type (telangiectatic) or a fleshy growth (fibrocellular type) containing calcified spicules, none of which are features of osteomyelitis.

(4) That osteomyelitis may extend until it involves a joint, though osteosarcomata never cross cartilage or invade a joint.

(5) That, contrary to what is generally believed, osteosarcomata are most common in middle-aged or old dogs; and that osteomyelitis may attack at any age.

(6) That both conditions occur suddenly, and that osteosarcoma, at least, runs a rapid course.

References

[1]Innes, J. (1938.) Debatable Tumours in Human and Animal Pathology. *Edin. Med. J.* **45**. N.S. (iv).
[2]——. (1942.) Neoplastic Diseases of the Testis in Animals. *J. Path. & Bact.* **54**. No. 4.
[3]——. Malignancy of Testicular Cancer in Man and Dogs. *Brit. J. Surg.*
[4]Schnelle, G. (1941.) New Growths of Bone. *N. Amer. Vet.* **22**. No. 10.
[5]Kirk, H. (1944.) Myelogenic Sarcoma. *Vet. Rec.* **56**. 190.
[6]Holmes, G., and Ruggles, H. Roëntgen Interpretation.
[7]Romanis, W., and Mitchener, D. Science and Practice of Surgery.
[8]Kirk, H. Index of Diagnosis.
[9]——. (1944.) "Osteo-myelitis?" *Vet. Rec.* **56**. 317.

Past Experiences in Large-Animal Practice*

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Equine Castration

For a number of years the method of castration adopted has been as follows:

Chloroform is administered in the standing position; the muzzle used is one that can be worn by a colt for any length of time without interfering with respiration; four ounces is the dose used for the yearling cart colt and five for the two-year-old. It is given in one dose and rarely is more required. A rope is previously secured round the neck and held along with a lengthened halter shank, and on recumbency is placed round the off hind coronet for the purpose of exposing the operation site. A small incision is made through the scrotal layers and a pair of artery forceps fixed, on either side of the incision, to the Tunica Vaginalis. A bold incision is then made, the membrane between the vascular and non-vascular portions of the cord is pierced with the fingers and a length of sterilised cord placed between the two portions of the testicular cord and round the testicle for the purpose of traction by an assistant. Pulv. iodoform is freely applied to the cord, the vascular portion ligatured and the testicle removed. The two pairs of forceps are then held together and traction applied; the outer layers are then separated from the Tunica Vaginalis, of which about one inch is excised.

The reasons for the procedure are as follows:—

(1) Chloroform standing is humane and convenient.

(2) Ligaturing of the vascular portion of the cord effectively prevents haemorrhage.

(3) Removal of a portion of the Tunica Vaginalis prevents the sequel of a scrotal-sac, a condition met with occasionally in my own practice as well as in horses brought into the district.

The administration of chloroform in the standing position is adopted for throwing horses for all operations; when down they are tied up as necessary.

One case of post-castration prolapse of the intestine, which was seen early, was relieved in the standing position by traction per rectum.

Gastrotomy in the Calf

This operation is indicated in calves up to a few weeks old for the relief of a condition brought about by the swallowing of binder twine or hair. A general anaesthetic is administered. An incision is made immediately posterior to the sternum, large enough to allow the introduction of the fingers or hand for the removal from the abdomen of a portion of the abomasum containing the foreign matter, which latter is then removed. The abomasum and the abdominal wall are then sutured.

In brief, the condition is recognised by the following symptoms: Anorexia, obstinate constipation not relieved by the administration of aperients, head rested on the side as in milk fever, a reflex cough—not expulsive and one that is not always visually observed. On palpation behind the sternum there is usually evidence of a splash.

Operative treatment in selected cases gives 100 per cent. success.

Coenurus cerebralis in the Bovine

For confirmation of diagnosis, percussion with a non-rubber tipped percussor is relied upon. After the usual preparation for operation and the administration of a general anaesthetic the cranium is pierced with a gimlet which pierces the cyst on entering the cranium. As soon as the fluid is seen the patient is turned and the cyst drained through a cannula of similar size to that of the gimlet. After draining, the head is slightly raised, and suction effected by the use of a fair sized hypodermic syringe without needle, pressed firmly against the skull. The syringe is then slowly removed while suction is still being applied and on the appearance of the cyst wall, the cyst is carefully removed. Suction sometimes has to be repeated before the cyst wall comes into view.

A dressing is applied and a figure-of-eight bandage covering the site of operation fixed round the horns. From 80 to 90 per cent. of the cases recovered.

Foetal Dystocia

The following methods are adopted when more than a little interference is indicated. In cases where it can be foreseen that the patient will remain standing throughout, a dose of epidural anaesthetic is administered such as will not bring about recumbency. In cases where the patient is unable to stand, chloroform is administered and the hindquarters slung to a convenient height for manual intervention, by pulley blocks attached to a hobble or soft rope fixing the hocks together. Sacks are placed under the shoulder to take some of the weight of the patient. In this latter position both arms can be used and the minimum of energy expended.

With regard to dystocia in the mare and epidural anaesthesia, anaesthesia is effected under similar circumstances and for the cart mare the dose is approximately twice that for the cow.

The preparation used consistently for epidural anaesthesia is Parsetic and the dose used for the heifer 12 c.c. and for the cow 15 c.c.

Post-Parturient Dyspepsia

Since it was reported some years ago that acetone—as detected by Rothera's test—is always associated with this condition, and the subcutaneous administration of glucose advised, blood sugar estimations have been carried out and the sugar content found to be somewhat low. In consequence of this latter finding it was then suggested that the acetonaemia is probably the result of hypoglycaemia. Since then all sub-acute cases have been successfully treated by allowing the udder to become distended before milking, two or three times consecutively according to the degree of response. There now appears to be considerable evidence that lack of a vitamin or an endo-secretion may be primarily concerned with causation.

With regard to the possibility of avitaminosis, it has been observed that well made silage has preventive and curative properties and as it is known that it contains practically as much carotene as grass, it is reasonable to suggest that lack of vitamin A may be responsible. In this connection it is worthy of mention that Mackay of Cockermouth has recently reported satisfactory results from the administration of cod-liver oil which, he suggests, may be due to the vitamin A content of the oil.

Post-parturient dyspepsia is included in this paper, at the risk of some repetition, because it is a condition met with frequently in the North and because serious discussion and experiment on preventive treatment are urgently indicated.

Wellcome Trustees' Gift to R.C.S. Museum.—An offer from the Wellcome Trustees of £80,000 toward the cost of extending the museum accommodation of the Royal College of Surgeons was appreciatively accepted at a meeting of a Council of the College held on Thursday of last week. In his letter to the President of the College, Sir Henry Dale, O.M., Chairman of the Wellcome Trustees, made reference to the "particular item of the activities of the College which, under the terms of our Trust, we were entitled to consider as suitable for a grant in aid of the proposed rebuilding and extension" as being "the great service which the Royal College has so long rendered to surgery, and to a much wider range of medical and scientific knowledge, by the maintenance of its historic and world-famous museums of human and comparative anatomy and pathology."

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Weekly Wisdom

It is a curious paradox that the old has a way of coming into its own just when the new is surpassing itself in ingenuity and inventiveness.—The Times (on 'demobilisation of carrier pigeons.')

* Presented to the Dumfries and Galloway Division, N.V.M.A., at Dumfries, October 13th, 1944.

CLINICAL COMMUNICATION

Operative Treatment of a Case of Recurrent Upward Luxation of the Patella

F. G. WADDINGTON, B.V.SC., M.R.C.V.S.,
LIMURU, KENYA COLONY

Subject.—A 15-months-old filly, hack type.

History.—The writer was called to attend this filly which, according to the owner, had suddenly gone dead lame, could not flex the off stifle joint, and consequently was dragging the affected limb.

Examination.—On arrival at the stable later in the day, the writer found that the filly had recovered and was able to move about freely.

The patient was in rather poor condition and, from the symptoms described by the owner, it seemed probable that temporary upward luxation of the patella had occurred.

Examination of the stifle revealed a slight slackness of the patella, but in spite of trotting the filly, turning her sharply to the left and right and backing her, it was not possible to induce a recurrence of the symptoms.

Treatment.—The filly was dosed for worms and a course of alterative powders, *i.e.*, iron and arsenic, was prescribed—with the idea that further luxation might not occur if the patient's general condition was improved.

Subsequent History.—During the next three weeks, the owner reported that locking of the stifle occurred three times, but on each occasion it was not possible for the writer to see the patient before spontaneous recovery had taken place.

Finally, the stifle locked yet again and the writer then reached the filly in time to see her off hind leg rigidly extended and trailing well behind the other leg.

Examination.—The filly was obviously excited and anxious and on attempting to move she staggered on three legs.

The off stifle was fully extended and the patella had ridden up and was resting above the upper edge of the trochlea.

On this occasion the stifle had been locked for several hours and showed no signs of making a spontaneous recovery.

The luxation was reduced by manipulating the patella and pulling the affected leg well forward. This was successful but the luxation recurred within a few minutes. Reduction, followed by recurrence of the luxation, was repeated three times, until finally the patella settled down into its normal position again.

Diagnosis.—It was then possible to make a definite diagnosis of complete upward luxation of the patella.

Prognosis.—In view of the increasing frequency of the luxation and the still poor condition of the filly, a very guarded prognosis was given.

It being the dry season, there was hardly any grazing and the writer was of the opinion that the filly's condition was unlikely to improve for some time, during which period the luxation might recur more frequently and the repeatedly displaced patella, riding over the trochlea, would be likely to cause erosion of the latter and a consequent arthritis.

Further Treatment.—Blistering of the stifle was considered, but this idea was rejected in view of the uncertainty of the treatment and the possible unfruitful delay, with its increasing risk of damage to the joint.

R. H. Smythe, writing in Wooldridge's "Encyclopaedia of Veterinary Surgery," states very briefly that some Continental veterinary surgeons recommend section of the internal straight ligament of the patella for relief of recurrent upward luxation. The writer decided to adopt this treatment, as it seemed that the operation would either be immediately successful or a complete failure.

Operation.—The filly was anaesthetised with chloroform, administered in the standing position, and cast on her off side as she went under. The skin over the inner aspect of the off stifle had been previously shaved and painted with iodine.

When the patient was completely anaesthetised and secured, the off hind leg was pulled back, the near hind being pulled well forward out of the way of the operator.

The internal straight ligament was identified by palpation and an incision was made in the skin, for two inches along the posterior border of the ligament. A straight bistoury was introduced flatwise and worked forward at right angles to the ligament, passing between the latter and the pad of fat overlying the synovial capsule. The cutting edge of the bistoury was then turned upward and, with two or three sawing movements, the ligament was severed close to its attachment to the internal tuberosity of the tibia, care being taken to avoid damage to tissue other than the ligament.

Haemorrhage was slight, mainly from the skin. The wound was flushed with euflavine solution, swabbed dry, and dusted with finely powdered proseptasine. The skin was sutured with interrupted Halstead sutures.

On recovering from the anaesthetic, the filly rose and walked normally to her box.

The wound healed by first intention. There was a slight swelling and soreness for a few days, but this soon subsided and the sutures were removed after ten days. The filly was kept in a loose box until the sutures were removed, after which she had gentle walking exercise for a week, and finally was turned out to grass.

Result.—The operation was successful. Luxation never recurred and at the time of writing, seven months after the operation, the filly is sound and gallops freely. Her condition is very much improved and it seems unlikely that the stifle will give any further trouble.

ABSTRACTS

[Studies on Porcine Enteritis. I.—Sulphathalidine Therapy in Treatment of Natural Outbreaks. (GRAHAM, R., PETERSON, E. H., MORRILL, C. C., HARDENBROOK, H. J., WHITMORE, G. E., and BLAMER, P. D.) (1945.) *J. Amer. vet. med. Ass.* **106**. 7.]

The relative inabsorbability of certain of the sulphonamide drugs renders them particularly valuable in the treatment of infectious conditions of the lower digestive tract of man and animals. One of the newest of the series to possess this quality to a high degree is sulphathalidine. Its effects when tried out in 17 herds of pigs comprising 707 animals suffering from enteritis, are recorded.

In uncomplicated cases of swine enteritis, including scouring in suckling piglets, it appears to be more efficacious than sulphaguanidine or any other form of treatment. The authors advise its use at the rate of 0·25 to 9·5 g. per 10 lb. body weight, mixed in powder form with the dry food. If some individuals are too weak to consume their fair share of food it will be necessary to drench these. It is emphasised that to get the best results all preventive measures should be applied simultaneously. Amongst these, improved sanitary conditions and a change of food to something bulky, like oats and barley, is advised.

Failures are to be expected where there are complicating conditions such as pneumonia or some intercurrent infection.

Treatment is followed in 24 hours by a fall in temperature, and soon after this has occurred the faecal state improves and appetite returns.

N. S. B.

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[Experimental Foetal Death: The Surviving Placenta. HUGGETT, A. ST. G., and PRITCHARD, J. J. (1945.) *Proc. Roy. Soc. Med.* **38**. 261-266.]

Foetal death is not necessarily followed by placental death. The rat, with eight young in an average litter, approximately 1 per cent. of the foetuses die before full term, but although they are resorbed the placentae remain recognisable for several days. The authors have studied the changes which take place in the placenta of the rat following foetal death brought about by the following methods: (1) Crushing foetuses through the intact uterine wall at laparotomy. (2) Bilateral ovariectomy. (3) Subcutaneous injection of oestrone. (4) Subcutaneous injection of gonadotrophic hormone.

Injections of oestrone or P.M.S., and bilaterial ovariectomy caused foetal death in the rat only if acting before the eleventh or twelfth day of gestation: in each case death of the embryo is due mainly to decidual necrosis. There is evidence that spontaneous death in rat embryos also occurs at about this time. It is suggested that this period is a critical one since it coincides with loss of the outer wall of the yolk-sac and vascularisation of the allantois, resulting in the establishment of a true allantoic placenta. At about this time, also, the corpora lutea of pregnancy enlarge, there is involution of the decidua, and the uterine lumen is re-opened.

In general, it was found that in whatever manner foetal death was produced the placenta tended to survive, grow and differentiate histologically, in comparatively normal fashion, particularly if the allantoic mesodermal component was present.

It seems that the trophoblast is relatively insusceptible to agents which cause foetal death, that it is nourished from the maternal blood-stream, and from an early age possesses great inherent capacity for independent growth and differentiation. The prophecy of Bantyne in 1902 that we may have to think of the parasitism of the placenta independently of the parasitism of the foetus seems to have proved true.

E. G. W.

REVIEW

["**The Meat We Eat.**" By P. Thos. Zeigler, Professor of Animal Husbandry, Pennsylvania State College. (8vo. pp. 376.) The Interstate Printers and Publishers, Danville, Illinois. Price $2·70.]

This textbook is compiled from lectures given by the author to students of the meat industry at the Pennsylvanian State College. Nothing comparable with this work has ever been prepared, as far as we know, in any language. In something less than 400 pages is packed a veritable encyclopaedia of the meat trade.

The various types and grades of the common food animals are concisely explained and details given of the methods of slaughter and preparation of the carcase—the many steps being amply illustrated by series of photographs. The jointing of carcases and preparation of cuts for retail are also carefully described and illustrated. Many of the cuts are peculiar to America but might well be copied with profit in this country. Methods used in cooking are explained and instructions are given with regard to carving and serving the various joints.

There are recipes for making a wide range of sausages and definitions are given of a large variety of other prepared meat foods. The preservation, storage and smoking of meats is concisely dealt with and short chapters are devoted to cold storage and the curing and tanning of hides and skins.

If the killing out percentages which are given are common in America, then the American farmer produces a much fatter beast than the average British farmer and the American public are content to eat meat which would be considered too fat by the average British butcher and housewife. It is stated that prime cattle should dress out from 62 to 67 per cent. of their live weight and that one fat steer actually dressed out at 87·6 per cent. Such "killing out percentages" would be considered as little short of extraordinary in this country.

An interesting diagram is prepared showing the income derived by the American farmer from his produce. No less than 56 per cent. is derived from meat, dairy and poultry products; meat providing 29 per cent. and dairy products 18 per cent.; 12 per cent. of the U.S.A. farmer's income is derived from grain and 7½ per cent. from vegetables.

A chapter is devoted to Federal and State meat inspection and very short notes are given on a few diseases affecting meat. The latter will prove disappointing reading to the veterinarian, but it is to be remembered that the book is primarily intended for students in butchery. A table showing the number of animals inspected during 1941 and the totals for 1942 will be read with interest by British meat inspectors, the total number of animals dealt with in 1941 being over 82,000,000, whilst in 1942 it was over 86,000,000.

The book can be read with profit by the general veterinary reader, but the veterinary meat inspector will find it of absorbing interest and, having once perused it, will place it among his valued books of reference.

LONG-TERM AGRICULTURAL POLICY

"Even before the war dairying was much the most important and the most generally profitable branch of British agriculture," writes a contributor to a recent issue of the *Observer*, who continues: "The long-term future of our farming—apart from limited areas where corn-growing is reasonably profitable, and apart also from market gardening, fruit-growing and the raising of poultry and the best livestock—depends upon a rapid specialisation in the production of clean, disease-free milk. The laying on of water and electricity, an increase in the number of veterinary surgeons, and the training of cowmen are examples of ways in which public money should now be used to assist agriculture. That would be to subsidise measures which will promote efficiency. The pre-war burdensome subsidies on the production of uneconomic quantities of wheat, sugar beet, and fat cattle tended to perpetuate a system which was falling increasingly behind the times.

"An agricultural policy which is linked to a social policy of providing milk and certain other foods freely or cheaply to mothers and children makes a concentrated attack on the social ills of malnutrition. This will ensure the financial support of the townsman and the woman voter by bringing them benefits which they, as consumers, can immediately recognise. And the best possible guarantee of lasting security for the farmer is precisely a policy which is thus solidly based on identity of interest between country and town."

* * * * *

The first artificial insemination station for cattle in Eire has been established at Mallow, Co. Cork, by Ballyclough Creamery.

ROYAL COLLEGE OF VETERINARY SURGEONS

Membership Examinations, July, 1945

List of Successful Candidates

London

First Year:

Allen, P. V. (C)
Anderson, Miss E. M.
Ayre-Smith, R. A. (C)
Bainbridge, J. G.
Bowen, D. L. (C)
Briault, M. O. (C)
Butler, G. A. F.
Chittenden, Miss P. M. (C)
Clark, M. A. (C)
*Collings, D. F.
Davey, T. E. L. (C)
Drury, F. S. (C)
Fox, R. C.
Glas, G. M.
Goddard, A. (C)
Griffiths, K. P.
Groll-Mason, Miss R.
Hardy, R. (C)
Hickman, S. J. H.
Hopkin, A. E.
Jenkins, O. D.
Lakin, C. N. S.
Mander, J. H.
Moggridge, Miss E. D.
*Morris, R. E.
Muse, H. (C)
†Oldham, J. G.
Oura, P. (C)
Paterson, W. M. R.
Pengelly, J. (C)
Phillips, J. G.
Pretty, Miss Y. I. (C)
*Richardson, J.
Roberts, L. W.
Robinson, C. E. (C)
*Ryde, P. S.
Secretan, Miss M. D.
*Siebert, W.
Sladden, I. E. T.
Spittle, R. J. H. (C)
Spurry, J. R.
Stanilas, I.
Stockman, M. J. R. (C)
Stokoe, H. P.
Stratton, J. (C)
Tebbutt, N. F.
Thomas, T. G.
Toop, B. R. V.
*Toosey, M. B.
*Vaughan, L. C.
Walsby, J. B.
Weaver, Miss B. Q. M.
Widrich, Miss S.
Williams, K. R.
Yeats, J. J.

† denotes 1st Class Honours.
* denotes 2nd Class Honours.
(C) denotes credit in Chemistry.

Second Year:

*Allen, W. G.
Appleby, E. C. (H)
*Barber, H.
Beale, R. K.
Biggers, Miss J. M.
Brown, F. G.
*Capel, L. H.
Chandler, R. L. (P)
Cousens, A. D.
*Coward, T. G.
Darbyshire, J. H. (P)
Graves, J. A. (P)
Green, Miss M. K. (P)
Hammond, J. A. (P)
*Harries, G. M.
*Harwood, P. M. A.
*Hill, R. B.
*Hollands, R. D.
Hughes, Miss R.
Ibbetson, Miss M. G.
James, R. A.
Jenkins, D.
*Jenkins, J. F.
Jones, B. R.
Jones, P. L.
Jones, T. D.
Lovegrove, Miss M. R.
*MacMichael, Miss E. M. H.
Nicol, J.
Orton, R. G. (H)
Packer, D. O.
*Palmer, A. C.
*Pingrim, F. P.
Rackham, Miss J. A.
Reakes, D. G. W.
*Rees, D. W.
Rickards, D. A.
Smith, R. N.
Sperber, Miss M. V. (H)
Stone, P. (P)
*Swarbrick, O.
Tarry, A. R. (H)
Throssell, P. J.
Tobin, W. (P)
Toovey, J. A.
†Turner, Miss P. J.
*Young, G. F. P.
Young, S.

† denotes 1st Class Honours.
* denotes 2nd Class Honours.
(P) denotes credit in Physiology, etc.
(H) denotes credit in Histology, etc.

Third Year:

Ablett, R. E. (P)
Barnett, D. N.
Beattie, W. E. (A) (H)
Betty, R. W. (H)
Boyden, S. V. (H)
Cross B. A. (H)
Darcel, C. le Q. (A) (H)
Delfosse, Miss M. L.
Frappell, J. P. (H)
*Gray, J. E.
Harris, D. G. (H)
Hobbs, D. O. (H)
Hodgson, A. J. (H)
Kingsbury, P. A. (P)
Lewis, D. G. (H)
Lewis, M. R. W.
Martin, I. L. (H)
Pay, T. W. F.
Slater, L. F.
Schwabacher, E. N.
Stower, J.
Sykes, C. W. O.
Vivian, Miss I. P. (P) (H)
Warren, A. L.
Warren, W.
*Watson, R. T.
Williams, G. (A) (H)

* denotes 2nd Class Honours.
(P) denotes credit in Pharmacology, etc.
(A) denotes credit in Anatomy.
(H) denotes credit in Hygiene, etc.

FOURTH YEAR:

Barnes, E. G.
Bennett, P. M. (Paras)
Brown, A. R.
*Calderbank, G.
Colley, A. H. J.
Cleverley, Miss D. C.
Cook, E. R.
Croft, Miss M. E.
Darbishire, H. B.
Delfosse, Miss M. M.
Dunn, P. S.
Edgson, F. A.
Gronow, W. P.
Hammond, F. C.
Harries, J. A. J.
Hart, C. B.
Hirst, B. J. (Paras)
Hopkins, W.
Jones, E. W.
Kenny, Miss D. M. (Path)
Leftwich, R. B. W.
Lewis, T. R. B. (Path)
McCarthy, B. J. A.
Mills, H. D.
Murray, M. D.
Mutton, C. H.
Ornbo, Miss M. A.
Parsons, W. G.
Pitman, K. J. (Paras)
Ridley, W.
*Roberts, H. E.
Shields, Miss P.
Shuja, J. D.
Stafford, L. P.
*Startup, F. G.
Taylor, E. E.
Trawford, F. R.
Troughton, Miss S. E. (Path)
Tunney, T. F.
Warren, A. G.
White, J. A.
Woodford, M. H.
Young, M.

* denotes 2nd Class Honours.
(Path) denotes credit in Pathology.
(Paras) denotes credit in Parasitology.

FINAL YEAR:

Arnold, G. K.
Barber, Miss E.
Biggers, J. D.
Bowen, D. I.
Briggs, C. A. E.
Brooks, W. E. J.
Carter, C. R.
Chivers, N. C.
Cooper, C. T.
Davies, P.
Drake, J. C.
Frost, R. C.
Gibson, E. A.
Gledhill, K. C.
Goulstone, R.
Hartley, W. J.
*Ingram, P. L.
Kiddle, P.
King, A. S.
Lobban, Miss M. C. C.
Milnes, Miss J. N.
Murray, C. B.
Narayana, P. H.
Pettifer, J.
Rollinson, D. H. L.
Russell, E. W.
Scott, Miss S. M. S.
Self, A. D.
Wilson, Miss J. M. N.

* denotes 2nd Class Honours.

Dublin

FIRST YEAR:

Beatty, Miss O. M.
Coghlan, F. X. (B)
Collins, Thomas
Downey, N. E.
*Gilchrist, G. M.
Keenan, N. T.
Lane, Morgan
McGettigan, J. F.
Murdoch, C. A. (B)
O'Dowd, P. W. (C)
O'Nuallàin, T.
Pentland, W. H.
Reihill, J. P.
Rooney, A. M. (C)
Thornton, T. J.

* denotes 2nd Class Honours.
(C) denotes credit in Chemistry.
(B) denotes credit in Biology.

Edinburgh

FIRST YEAR: (Not yet received.)

SECOND YEAR:

*Auchnie, J. A.
Blythman, W. G.
Caird, Miss E. A. Y. (P)
Corrigal, Wm.
*Cowie, J. F.
Curry, G. D.
Fleming, J. A. (P)
Gingles, John
Hall, J. H. (P)
*Head, K. W.
Horseman, Matthew
*Huddart, J. E.
Kay, R. N. (P)
Kydd, W. J. C.
*Malloch, R. A. H. W.
*Millar, Miss M. E.
Moodie, E. W. (P)
*Moore, E. R.
Murphy, Stanley (H)
Phillips, J. E. (P)
Preston, Miss A. C.
*Rafferty, G. C.
Rayne, Philip
Richardson, Sydney (H)
*Riddell-Swan, J. M.
Siller, W. G.
*Soulsby, E. J. L.
*Stockdale, H. G.
Tench, A. H. (P)
*Thomlinson, J. R.

* denotes 2nd Class Honours.
(P) denotes credit in Physiology, etc.
(H) denotes credit in Histology, etc.

THIRD YEAR:

Bottomley, P. J. (A)
Bownass, R. C. (H)
Buie, Andrew
Chadwick, I. M.
Colebrook, F.
Donald, I. G. (A) (H)
Duncan, J. M.
Dyce, K. M. (H)
Ellis, P. R.
Gourley, James (H)
Horrox, M. A. (H)
Marr, Alfred (A) (H)
Paterson, J. D.
Robson, John (H)
Strachan, John (A)
Sullivan, E. W.
Thomas, Philip
Wilson, J. C. (H)
Wilson, W. J.
*Wilson, J. M.

* denotes 2nd Class Honours.
(A) denotes credit in Anatomy.
(H) denotes credit in Hygiene, etc.

FOURTH YEAR:

Dudgeon, Alexander
Gledhill, G. G. (Paras)
Handy, D. E.
Hanscomb, Raymond
Hezlet, R. K.
Hogg, Anthony (Paras)
Jordan, W. J.
Lambert, P. S.
Leach, J. L. R.
Maclean, M. W.
Marshall, P. M.
Mather, D. B.
Olivant, J. M. (Path)
Scott, G. R.
Shearer, G. C.
Smith, J. H. C. (Path)
Towse, G. H. H.
*Wilson, J. B.
Young, A. A.

* denotes 2nd Class Honours.
(Path) denotes credit in Pathology.
(Paras) denotes credit in Parasitology.

FINAL YEAR:

Archer, Dennis
Arnot, C. A. M.
Baillie, J. R.
Beynon, R. S.
Blamire, R. V.
Bridge, P. S.
Brown, David
Dougill, G. P.
*Duncan, George
Fairclough, R. R.
Grant, D. L. (S)
Gray, G. M.
Hall, J. G.
Harding, H. P.
Hill, R. L.
Langridge, R. N. T.
Macdonald, Angus
Markson, L. M.
Newlands, T. B.
Osborne, A. D.
Oxley, Henry
Preston, P. T. (S)
Richter, W. A. G.
Sharman, G. A. M.
Wallace, R. J. L.
Wildbore, J. J. S.
Wood, James

* denotes 2nd Class Honours.
(S) denotes credit in Surgery.

(To be continued)

IODINATED PROTEIN AND MILK PRODUCTION

In a recent announcement, relative to the above, the Ministry of Agriculture and Fisheries and the Department of Agriculture for Scotland state: "Experiments have been in progress with a substance known as 'iodinated protein' and have shown that, if this is fed to milking cows at a particular short stage of the lactation, it stimulates the udder and temporarily increases the milk yield. In the later stages of the work a large-scale trial was carried out in which many farmers took part.

"Whilst this trial confirmed previous research work, a general review of the position made it clear that the use of the substance as an aid to milk production could not, in the light of present knowledge, be recommended. There is considerable disturbance of the metabolism of the cows when it is used, and a danger of some degree of illness. The cows lose a good deal of body weight, which has to be offset as far as possible by giving extra rations of oil cake, compound or other protein food, and there is a faster reduction in milk yield than usual in the last stages of the lactation. The question of the value of the extra milk produced over the lactation as a whole has, of course, to be considered in relation to these other factors, including the cost of the extra rations and of the treatment.

"The full effects in other directions (*e.g.*, on the length of life) of feeding iodinated protein to milking cows have not yet been ascertained, and further trials are being considered. In the meantime, the use of this product would not be in the interests of milk production or of milk producers, and the Ministry of Agriculture and the Department of Agriculture for Scotland do not intend that it shall be made generally available."

NOTES AND NEWS

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

July 24th.—Summer Meeting of the Eastern Counties Division, N.V.M.A., at Cambridge (Institute of Animal Pathology), 11 a.m.

July 25th.—Meeting of the Lancashire Division, N.V.M.A., at the Cheshire School of Agriculture, Reaseheath, Nantwich.

July 25th.—Summer Meeting of the Yorkshire Division, N.V.M.A., at Doncaster (Glasgow Paddocks), 2.30 p.m.

July 26th.—Meeting of the South-Eastern Division, N.V.M.A., at Folkestone (Subscription Rooms, Leas Cliff Hall).

July 26th.—Meeting of the Southern Counties Division, N.V.M.A., at Winchester (Royal Hotel), 2.30 p.m.

July 27th.—Meeting of the Royal Counties Division, N.V.M.A., at Jealott's Hill (I.C.I. Agricultural Research Station), 2.15 p.m.

July 27th.—Annual General Meeting of the Sussex Division, N.V.M.A., at Brighton (Old Ship Hotel), 2.15 p.m.

Sept. 15th.—Applications due for Miss Cust Research Scholarship.

Sept. 19th.—R.C.V.S. Committee Meetings.

Sept. 20th.—R.C.V.S. Committee Meetings.

Sept. 21st.—**R.C.V.S. Council Meetings.**

Sept. 25th.—**N.V.M.A. Council and Committee Meetings.**

Sept. 26th.—**In connection with N.V.M.A. Annual Meeting—Paper: "Achievements of the Army Veterinary and Remount Services during the War" (Morning). President's Reception, Dorchester Hotel, Park Lane, W.1, 8.30 p.m.**

Sept. 27th.—**Paper: "War-time Achievements of the Colonial Veterinary Service" (Morning). Annual General Meeting, N.V.M.A., The Grand Hall, Royal Veterinary College, N.W.1, 2 p.m.**

Sept. 28th.—**N.V.M.A. Council Meeting, 10 a.m.**

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ANNUAL GENERAL MEETING, N.V.M.A.

Hotel Accommodation

As intimated in our last issue, various meetings, including the Annual General Meeting, are to be held in London from September 25th to 28th (inclusive).

Members who intend to be present at these meetings are again advised to make their arrangements well in advance. Messrs. Thos. Cook & Son, Ltd., Berkeley Street, London, W.1, have agreed to help in the booking of hotel accommodation and can also issue, at advertised fares, any travel tickets required.

Members who desire to take advantage of their services are urged to obtain further information from the General Secretary, N.V.M.A., 36, Gordon Square, London, W.C.1, without delay.

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PERSONAL

Birth.—Coyle.—On July 3rd, 1945, a son to Wynne and Tom Coyle at Le Awamutu, North Island, New Zealand.

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Funeral of Capt. William Shipley.—Fellow members of the profession and farmers were among the large company who attended the funeral on July 6th of Mr. Wm. Shipley, the Yarmouth veterinary surgeon, who, as reported in a recent issue, collapsed and died at his home, 28, Southtown Road. A service at St. Mary's Church, Southtown, conducted by the Vicar of Southtown, conducted by the Vicar of Southtown (Rev. C. H. Blois Bisshopp), preceded the interment in Gorleston Cemetery. The veterinary surgeons present were Mr. P. R. Turner (also representing Mr. E. Brayley Reynolds), Mr. Geoffrey Leader and Mr. F. Day (all of Newmarket), and Mr. B. Claxton (representing the Eastern Counties V.M.A.).

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VETERINARY EDUCATIONAL TRUST

World's Record Stud Fee at the Newmarket Nominations

A record for a service by a thoroughbred stallion was established at Newmarket on Monday of last week, when F. Armstrong, the Middleham trainer, on behalf of the Maharaja Gaekwar of Baroda, secured a 1946 service to Nearco at 4,600 gns. The sale was one of twelve nominations to leading stallions offered for the benefit of the Bloodstock Industry Fund of the Veterinary Educational Trust, which realised a total of 8,141 gns. The previous record for a single service was 1,800 gns. paid last year for the National Stud stallion Big Game. A further ten nominations will be offered at the September Newmarket sales. During the previous week, at the Stockton sales, six nominations of lower value were auctioned and produced 490 gns. for the Trust.

Nearco, sire of Derby winner Dante, won the 1938 Grand Prix de Paris and has been valued at £120,000. Mr. Martin Benson—who gave the nomination—bought him for £60,000, and in 1941 Nearco was syndicated at £62,000 (in 40 shares of £1,550 each). It is almost impossible to obtain a nomination to Nearco in the normal way, and the Newmarket auction offered breeders their only chance.

While the extraordinary fee paid by the Gaekwar of Baroda was largely due to the fact that the sale was for the Veterinary Educational Trust—the nominations on behalf of the Trust on succeeding days also sold well—it is, nevertheless, an indication of the still climbing value of bloodstock. Prices are rising to remarkable levels, and recently there was reported the refusal of £105,000 for Dante.

. . . . . .

As a result of a recent greyhound race meeting at Bannister Stadium, Southampton, a cheque for £500 was handed over to the Veterinary Educational Trust Fund for research and scholarship, and the winning nominator, Mr. Paterson, also handed over his prize, £50, to the fund.

The Mayor of Southampton (Councillor J. C. Dyas), who presented the prizes and handed over the cheque to the county treasurer of the Trust (Mr. R. P. Chester), after receiving it from the Stadium directors, expressed thanks to all concerned, including the kennel and Stadium staff, for their help in the raising of so large a sum for so deserving a cause.

* * * * *

N.H.A. FUND FOR THE WELFARE OF THE HORSE

In a special appeal to show secretaries and others on behalf of its newly instituted "National Horse and Pony Development and Improvement Fund," the National Horse Association of Great Britain state that it is thought the time is arriving when all horse shows should be invited to contribute some portion of their profits or to make a donation therefrom for the benefit of the horse. Contributions will be welcomed from individuals apart from the organisers of horse shows and gymkhanas. Contributions will be placed to a separate account and allocations from the Fund will be made by a committee appointed for the purpose. Both the light and heavy breeds will be eligible for these benefits.

Allocations will be made from the fund for the following purposes:

1. For further or additional premiums to stallions.
2. For the award of trophies, cups, and money prizes.
3. To subsidise the provision of enclosures for maintaining and improving the Mountain and Moorland breeds with premiums to the owners of mares as well as stallions.
4. To provide maintenance or apprenticeship fees for young people for the following trades: (*a*) harness making and saddlery; (*b*) farriery; (*c*) coach builders and wheelwrights; (*d*) any other trade concerned with the well-being of the horse.
5. To make grants to the Veterinary Educational Trust.
6. To contribute to Benevolent Funds formed for those whose calling has been with horses and allied trades.
7. To encourage the holding of more shows of "in hand" classes for all breeds—Arabs, Hackneys, Hunters, Heavy Horses, Mountain and Moorland ponies and others.
8. To encourage greater knowledge of equitation and horsemastership by providing lecturers on all subjects or in other ways.
9. For any other desirable object.

"Although the war in Europe is at an end," the appeal concludes, "many shows have arranged to devote their funds to war charities, and no one would wish to alter this arrangement. We are looking more to the future, but would like promises and of course all small 'token' donations will be received most gratefully."

Cheques should be made payable to the National Horse Association of Great Britain and be sent to the Secretary, R. A. Brown, Esq., 35, Wymond Street, Putney, S.W.15, and further particulars can be obtained from the Hon. Organiser, R. S. Summerhays, Esq., 36, Ernle Road, Wimbledon, S.W.20.

. . . . . .

At their last meeting, the Council of the National Horse Association expressed their sorrow and regret at the death of Sir Walter Gilbey, Bart., the original Chairman of the Association from 1922, and its first President in 1928. In addition he was the first individual member to enrol. "The horse world in general and the Association in particular has lost a great supporter and one whose place it will be difficult adequately to fill. The Council felt that all members would join with them in their expressions of deep sympathy and regret at losing the Founder of the Association."

At the same meeting, Mr. F. Beckett, F.R.C.V.S., submitted the question of irregular racing at many shows and gymkhanas, and the following resolution was passed: "The Council deplore the introduction of irregular racing at gymkhanas and shows, and express strong disapproval. They hope that all recognised judges will refuse to officiate at such shows."

* * * * *

Light Horse and Pony Stallion Locations, etc.—It is believed that a number of our readers will be included amongst those to whom information will be of service concerning the locality of the nearest light horse and pony stallions, together with particulars as to breeding, fees, etc. Such will be glad to learn that copies of a list compiled from particulars sent in by owners of stallions available for service this year at a fee not exceeding twenty guineas is obtainable, price 6d., from the National Horse Association of Great Britain, 35, Wymond Street, Putney, London, S.W.15.

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SCHEME FOR THE CONTROL OF DISEASES OF DAIRY CATTLE

STATEMENT SHOWING THE NUMBER OF UNDERTAKINGS NOTIFIED TO THE MINISTRY OF AGRICULTURE DURING THE MONTH ENDED JUNE 30TH, 1945

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Bucks	1	96	97	3,203	1,919
Cambridge	—	13	13	334	192
Chester	—	394	394	12,954	4,467
Cornwall	—	4	4	72	75
Cumberland	—	63	63	1,588	1,355
Derby	2	333	335	9,581	5,440
Devon	6	300	306	4,547	2,738
Dorset	—	68	68	2,120	1,123
Durham	—	285	285	6,277	2,293
Essex	—	246	246	8,847	5,198
Gloucester	1	101	102	2,959	1,689
Hampshire	5	380	385	10,741	7,600
Hereford	—	19	19	362	216
Hertford	—	79	79	2,400	1,455
Hunts	—	13	13	475	302
Isle of Ely	—	2	2	58	29
Isle of Wight	—	14	14	252	127
Kent	2	170	172	4,379	2,529
Lancs	1	196	197	5,679	1,784
Leics	1	103	104	2,603	1,832
Lincs (Holland)	—	3	3	25	11
Lincs (Kesteven)	—	23	23	329	168
Lincs (Lindsey)	—	108	108	2,067	1,187
Middlesex	—	15	15	611	291
Norfolk	—	191	191	5,738	3,960
Northants	—	82	82	2,297	1,780
Northumberland	—	65	65	2,180	1,181
Notts	2	176	178	3,873	2,351
Oxford	—	45	45	1,237	1,089
Rutland	—	8	8	156	107
Salop	1	262	263	7,899	3,886
Soke of Peterborough	—	1	1	37	31
Somerset	—	253	253	6,647	3,087
Staffs	1	205	206	6,103	3,593
Suffolk, E.	—	88	88	2,002	1,507
Suffolk, W.	—	49	49	1,003	652
Surrey	—	104	104	3,034	1,400
Sussex, E.	—	179	179	4,515	2,661
Sussex, W.	—	112	112	3,215	1,944
Warwick	—	137	137	3,331	2,111
Westmorland	—	13	13	354	444
Wilts	1	90	91	3,639	1,930
Worcester	—	156	156	3,188	1,562
Yorks, E.R.	—	105	105	1,620	957
Yorks, N.R.	—	117	117	2,381	1,490
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Anglesey	—	49	49	868	623
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Monmouth	—	54	54	1,272	713
Montgomery	—	15	15	294	233
Pembroke	—	73	73	1,453	1,039
Radnor	—	—	—	—	—
TOTALS	27	6,720	6,747	173,880	95,488

Notes.—(1) Operative periods of undertakings: 1 year, 1,134; 2 years, 514; 3 years, 5,099. (2) Undertakings renewed for a further period: 1 year, 1,038; 2 years, 183; 3 years, 201. (3) Undertakings not renewed at end of operative period, 817. (4) The figures showing the number of undertakings notified during the month relate to entirely fresh undertakings and do not include undertakings renewed for a further period. Undertakings which have been cancelled or not included in the figures for previous notifications.

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Angus	—	21	21	838	395
Argyll	—	6	6	113	115
Ayr	—	27	27	883	664
Banff	—	3	3	93	42
Berwick	—	2	2	53	22
Bute	—	—	—	—	—
Caithness	—	—	—	—	—
Clackmannan	—	6	6	271	251
Dumfries	1	13	14	777	710
Dumbarton	—	3	3	105	86
East Lothian	—	3	3	145	88
Fife	—	36	36	1,349	703
Inverness	—	8	8	324	191
Kincardine	—	3	3	127	83
Kinross	—	3	3	58	40
Kirkcudbright	1	12	13	837	612
Lanark	—	19	19	730	549
Midlothian	—	1	1	44	69
Moray	—	—	—	—	—
Nairn	—	1	1	14	—
Orkney	—	—	—	—	—
Peebles	—	2	2	28	16
Perth	—	29	29	697	431
Renfrew	—	7	7	277	201
Ross-shire	—	2	2	58	52
Roxburgh	—	—	—	—	—
Selkirk	—	—	—	—	—
Stirling	—	29	29	931	780
Sutherland	—	5	5	104	76
West Lothian	—	1	1	23	18
Wigtown	—	27	27	1,783	1,030
Zetland	—	—	—	—	—
TOTALS	2	287	289	11,412	7,443

Notes.—(1) Duration of undertakings: 1 year, 36; 2 years, 13; 3 years, 240. (2) Undertakings renewed for a further period (included in column 2 of statement): 1 year, 37; 2 years, 6; 3 years, 8. (3) Undertakings expired and not renewed (not included in column 2 of statement): 92. (4) The figures showing the number of undertakings notified during the month relate to entirely fresh undertakings.

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ADDRESSES OF DISEASE-INFECTED PREMISES

FOOT-AND-MOUTH DISEASE:

Hants.—Bonhams Farm, Wickham Common, Wickham, Fareham; Co-operative Slaughterhouse, Portswood Road, Southampton (July 10th).

Staffs.—Wallbank Piggeries, off Bradley Lane, Bradley, Bilston (July 11th); Deepfields, Haveacre Lane, Coseley, Bilston (July 12th).

Surrey.—Gosden Hill Farm, Merrow, Guildford (July 11th); Home Farm, East Clandon, Guildford (July 12th); Hoebridge Farm, Old Woking, Woking (July 14th).

SWINE FEVER:

Berks.—Oakdene Farm, Reading Road, Winnersh (July 14th).

Cumberland.—Cavin Bridge, Head's Nook, Carlisle (July 16th).

Derby.—19, Priory Road, Alfreton (July 16th).

Dumfriesshire.—Bonshawside, Annan (July 10th); Cummertrees House, Cummertrees, Annan (July 11th).

Durham.—Hawthorne House, Shildon (July 10th).

Lincs.—Manor House, Skellingthorpe, Lincoln (July 10th).

Monmouthshire.—The Piggeries, Ebbw Vale, Monmouth (July 10th).

Norfolk.—St. German's Siding, King's Lynn (July 16th).

Northumberland.—South Farm, Whittington, Newcastle-on-Tyne (July 16th).

Oxon.—R.A.F. Station (P.F.I.), Bicester (July 13th).

Surrey.—Preymead Farm, Badshot Lea, Farnham (July 10th); "Spelthorne St. Mary," Coldharbour Lane, Thorpe, Chertsey (July 13th).

Wilts.—Hen and Chicken Farm, Marston Meysey, Swindon (July 16th).

Yorks.—Piggeries, Moorcock Row Gardens, Lingdale, Saltburn-by-the-Sea (July 13th).

SHEEP SCAB:

Denbighshire.—Ysgubor Newydd, Llansannan, Denbigh (July 10th).

Merioneth.—Nanthir Farm, Cwmtirmynach, Bala, Merioneth (July 13th).

Salop.—Cefnhirfawr, Llanrhaiadr-y-m, Oswestry (July 9th and 10th).

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HEREFORD SOCIETY AND ATTESTATION

On and after January 1st, 1947, all shows and sales organised by the Hereford Herd Book Society will be open to Attested herds only. Writing to *The Farmers' Weekly* concerning this decision, a special correspondent says: "The Society is the first of the beef breeds to

come to such a decision, which means virtually that all members will have to seek attestation, since it is only the official sales of the breed which attract the exporting interests. Actually, a good 50 per cent. of the herds in the book are, I imagine, already Attested; certainly all the leading breeders come within the category."

In a circular letter, the Society points out that under the new regulations recently issued by the Ministry of Agriculture. the show and sale of non-Attested and Attested cattle in the same place will, in the opinion of the Council, be "utterly impossible."

"The only alternative," the Society continues, "is for the Society's shows and sales to become 'unauthorised,' which means that cattle from Attested herds attending these shows and sales, and being purchased to go into Attested herds, or returning home unsold, must go into isolation for 60 days and then be retested, at the Ministry's expense; although during such isolation they may be used for breeding purposes.

"Your Council are consequently of the opinion, in view of the Hereford breed's freedom from tuberculosis, that it would be of the greatest advantage for the whole breed to become attested; it would give the Hereford a standard which few, if any, other breeds could approach, and would also enable future shows and sales of the Society to carry on without being divided into sections, which would be very beneficial to all concerned."

Until the start of the new arrangement on January 1st, 1947, the Society's shows and sales will, the Council state, be carried on as "unauthorised" sales. Breeders will thus have the remaining portion of 1945 and the whole of 1946 in which to become attested.

The Council point out that it is not compulsory for all herds to become attested and that it is not a requirement for registration in the Herd Book. Cattle, however, entered for the shows and sales of the Society held after January 1st, 1947, must come from Attested herds.

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The Council of Crewe Pedigree Pig Breeders' Association has decided to confine the entry of boars for the show and sale in November to tuberculin-tested stock.

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TUBERCULOSIS IN THE GOAT

Mr. G. A. Tomlin writes: "Referring to Commander Locker Lampson's statement in the Commons as reported in the *Record* of Jupe 16th, it is as well to point out that cases of tuberculosis, although rare, have occurred in the goat and the late Mr. Dunkin mentioned this in a letter to the Press."

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"A DAY IN THE LIFE OF A VETERINARY OFFICER IN AFRICA"

In this contribution to the *Imperial Review*,* our colleague, Mr. John Smith, sets out briefly for those not acquainted with the nature of Africa's Colonial veterinary work the general run of duties a veterinary officer might undertake in the course of a day's tour through the countryside. The subjects chosen to illustrate the work done are chiefly those relating to drying of hides for the export market; supervision of village dairying; inspection of cattle, their pens and kraals; advising as to breeding and general care, and a general assessment of the state of health of the cattle in a village. Emphasis is laid on the manner in which native outlook and customs are taken into consideration when giving instruction as to how better results can be obtained by the adoption of improved methods and advising generally concerning the welfare of the livestock and their usefulness to their owners and the community.

* "A Day in the Life of a Veterinary Officer in Africa." Smith, J. (1945.) *The Imperial Review*. XII. 146-147.

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BRITISH MISSION TO STUDY FARM BUILDINGS IN NORTH AMERICA

The Committee appointed by Mr. R. S. Hudson, Minister of Agriculture and Fisheries, to consider the design, layout and construction of farm buildings, recently reported, and the Report is in the printers' hands and will soon be published. One of the Committee's recommendations is that recent developments in farm buildings in America should be studied in order that the fullest information should be made available to farmers, landowners architects and builders in this country.

It has, therefore, been arranged that a small party shall visit America this summer. The party, which expects to be away for two to three months, will consist of: The Earl of Portsmouth, landowner and farmer, and member of the Hampshire War Agricultural Executive Committee; Mr. F. Ward, farmer from Shropshire; Mr. J. Mackie, farmer from Kincardineshire; Mr. A. Thorpe, F.R.I.B.A., Architect to the Ministry of Agriculture and Fisheries, and Mr. P. J. Moss, of the Ministry of Agriculture and Fisheries, Secretary of the Farm Buildings Committee.

The Mission will report to the Agricultural Ministers on their return.

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MINISTRY OF AGRICULTURE NEWS SERVICE

Infertility in Cows.—It sometimes happens that a cow alleged to be barren has been found to be carrying a calf. Any diagnosis of infertility that a farmer makes should, therefore, be confirmed by professional examination. Once the existence of infertility is confirmed, the animal should be examined to determine the cause. Sometimes treatment may prove successful and the cow brought into bearing. Where there is no successful treatment, the owner can dispose of the cow for slaughter before her presence in the herd has made her a dead loss.

If a farmer takes advantage of the scheme for the control of diseases of dairy cattle, then his herd receives regular examination and treatment at a fixed fee for infertility, mastitis, contagious abortion and Johne's disease.

* * * * *

Ladder of Success.—These are the main steps in the building up of a successful dairy herd:—

Select a breed suitable to local conditions. Use a succession of good bulls of the same breed and type and never introduce a bull of another breed. Officially record the milk yield of each dairy cow and so discover the uneconomic animals and cull them out. Rear all animals well, for it is during the early rearing period that a calf can be made or marred. Feed according to yields and use good feeding-stuffs, balanced for maintenance and production. Plan cropping for self-sufficiency in good hay, oats, beans and peas, kale, mangolds and good silage. See that the new leys and pastures provide herbage of quality and quantity.

* * * * *

Order of Milking and Fat Percentage.—Genuine milk sometimes falls below the legal minima of 3 per cent. fat and 8½ per cent. solids—not fat. War-time difficulties in feeding and labour shortage have tended to increase the number of cases of this kind.

If the fat percentage of the milk of the herd is low there are four things that may help to improve matters. Firstly, milk at 12 hour intervals as nearly as possible. Secondly, milk the heaviest yielders last at night and first in the morning. Thirdly, make sure stripping is thorough. Fourthly, feed adequate and balanced rations.

When it is known which cows are giving milk low in fat content arrange the order of milking so that their milk is distributed among the churns.

Since a high fat content is hereditary pay strict attention to fat percentages when choosing a stock bull and cows for breeding.

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Summer Liming on Grassland.—Whether grazed or converted into silage or hay, grass is the chief source of the calcium required by stock, particularly young stock for making bone, and milking cows for making milk. A dressing of summer lime on new leys or older grassland will greatly improve the feeding quality of the herbage. Summer liming can take place on meadows directly the hay crop is off and on pastures at any time when the grass is short. Stock should be kept from the limed pastures until there has been a shower of rain to wash the herbage clean. It is, therefore, advisable to lime when there is a forecast of possible rain. If the meadows and pastures are not too acid about one ton per acre of finely ground limestone will result in a richer and more palatable grazing. On soils of an acid nature the dressing may have to be raised to two or three tons of coarse ground limestone, ground chalk or limestone dust.

* * * * *

A Course on How to Demonstrate.—A livestock demonstration course recently held at the Northamptonshire Institute of Agriculture was attended by technical and animal husbandry officers from 37 War Agricultural Executive Committees in England and Wales. The course lasted three whole days. The object was to consider and discuss the best way to put across to farmers the Ministry of Agriculture's livestock improvement policy.

It was recognised that at dairy cattle demonstrations stress is laid on the fact that improvement in cattle can be brought about by better breeding, feeding and management. But better breeding is not an easy job. A farmer having seen the need for improvement cannot change his animals, as if they were so many farm implements, by going into the market and buying a complete set of new and more efficient tools. He can, however, grade-up his animals to be accepted by those societies that have open herd books. But he must be careful to select the breed most suitable to his conditions. Grading-up is a long-term investment but it is one that is bound to pay a handsome dividend.

Improvement in feeding and management, being directly under the farmer's control, will give quick results, but unless he records the milk production of each cow it is impossible for these results to be interpreted in terms of milk produced for food eaten. Without a proper system of recording a farmer knows little about his

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East Lothian	—	3	3	145	88
Fife	—	36	36	1,349	703
Inverness	—	8	8	324	191
Kincardine	—	3	3	127	83
Kinross	—	3	3	56	40
Kirkcudbright	1	12	13	837	612
Lanark	—	19	19	730	549
Midlothian	—	1	1	44	69
Moray	—	—	—	—	—
Nairn	—	1	1	14	—
Orkney	—	—	—	—	—
Peebles	—	2	2	28	16
Perth	—	29	29	697	431
Renfrew	—	7	7	277	201
Ross-shire	—	2	2	58	52
Roxburgh	—	—	—	—	—
Selkirk	—	—	—	—	—
Stirling	—	29	29	931	780
Sutherland	—	5	5	104	76
West Lothian	—	1	1	23	18
Wigtown	—	27	27	1,783	1,030
Zetland	—	—	—	—	—
TOTALS	2	287	289	11,412	7,443

Notes.—(1) Duration of undertakings: 1 year, 36; 2 years, 13; 3 years, 240. (2) Undertakings renewed for a further period (included in column 2 of statement): 1 year, 37; 2 years, 6; 3 years, 8. (3) Undertakings expired and not renewed (not included in column 2 of statement): 92. (4) The figures showing the number of undertakings notified during the month relate to entirely fresh undertakings.

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ADDRESSES OF DISEASE-INFECTED PREMISES

FOOT-AND-MOUTH DISEASE:

Hants.—Bonhams Farm, Wickham Common, Wickham, Fareham; Co-operative Slaughterhouse, Portswood Road, Southampton (July 10th).

Staffs.—Wallbank Piggeries, off Bradley Lane, Bradley, Bilston (July 11th); Deepfields, Haveacre Lane, Coseley, Bilston (July 12th).

Surrey.—Gosden Hill Farm, Merrow, Guildford (July 11th); Home Farm, East Clandon, Guildford (July 12th); Hoebridge Farm, Old Woking, Woking (July 14th).

SWINE FEVER:

Berks.—Oakdene Farm, Reading Road, Winnersh (July 14th).

Cumberland.—Cavin Bridge, Head's Nook, Carlisle (July 16th).

Derby.—19, Priory Road, Alfreton (July 16th).

Dumfriesshire.—Bonshawside, Annan (July 10th); Cummertrees House, Cummertrees, Annan (July 11th).

Durham.—Hawthorne House, Shildon (July 10th).

Lincs.—Manor House, Skellingthorpe, Lincoln (July 10th).

Monmouthshire.—The Piggeries, Ebbw Vale, Monmouth (July 10th).

Norfolk.—St. German's Siding, King's Lynn (July 16th).

Northumberland.—South Farm, Whittington, Newcastle-on-Tyne (July 16th).

Oxon.—R.A.F. Station (P.F.I.), Bicester (July 13th).

Surrey.—Preymead Farm, Badshot Lea, Farnham (July 10th); "Spelthorne St. Mary," Coldharbour Lane, Thorpe, Chertsey (July 13th).

Wilts.—Hen and Chicken Farm, Marston Meysey, Swindon (July 16th).

Yorks.—Piggeries, Moorcock Row Gardens, Lingdale, Saltburn-by-the-Sea (July 13th).

SHEEP SCAB:

Denbighshire.—Ysgubor Newydd, Llansannan, Denbigh (July 10th).

Merioneth.—Nanthir Farm, Cwmtirmynach, Bala, Merioneth (July 13th).

Salop.—Cefnhirfawr, Llanrhaiadr-y-m, Oswestry (July 9th and 10th).

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HEREFORD SOCIETY AND ATTESTATION

On and after January 1st, 1947, all shows and sales organised by the Hereford Herd Book Society will be open to Attested herds only. Writing to *The Farmers' Weekly* concerning this decision, a special correspondent says: "The Society is the first of the beef breeds to

come to such a decision, which means virtually that all members will have to seek attestation, since it is only the official sales of the breed which attract the exporting interests. Actually, a good 50 per cent. of the herds in the book are, I imagine, already Attested; certainly all the leading breeders come within the category."

In a circular letter, the Society points out that under the new regulations recently issued by the Ministry of Agriculture. the show and sale of non-Attested and Attested cattle in the same place will, in the opinion of the Council, be "utterly impossible."

"The only alternative," the Society continues, "is for the Society's shows and sales to become 'unauthorised,' which means that cattle from Attested herds attending these shows and sales, and being purchased to go into Attested herds, or returning home unsold, must go into isolation for 60 days and then be retested, at the Ministry's expense; although during such isolation they may be used for breeding purposes.

"Your Council are consequently of the opinion, in view of the Hereford breed's freedom from tuberculosis, that it would be of the greatest advantage for the whole breed to become attested; it would give the Hereford a standard which few, if any, other breeds could approach, and would also enable future shows and sales of the Society to carry on without being divided into sections, which would be very beneficial to all concerned."

Until the start of the new arrangement on January 1st, 1947, the Society's shows and sales will, the Council state, be carried on as "unauthorised" sales. Breeders will thus have the remaining portion of 1945 and the whole of 1946 in which to become attested.

The Council point out that it is not compulsory for all herds to become attested. and that it is not a requirement for registration in the Herd Book. Cattle, however, entered for the shows and sales of the Society held after January 1st, 1947, must come from Attested herds.

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The Council of Crewe Pedigree Pig Breeders' Association has decided to confine the entry of boars for the show and sale in November to tuberculin-tested stock.

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TUBERCULOSIS IN THE GOAT

Mr. G. A. Tomlin writes: "Referring to Commander Locker Lampson's statement in the Commons as reported in the *Record* of June 16th, it is as well to point out that cases of tuberculosis, although rare, have occurred in the goat and the late Mr. Dunkin mentioned this in a letter to the Press."

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"A DAY IN THE LIFE OF A VETERINARY OFFICER IN AFRICA"

In this contribution to the *Imperial Review*,* our colleague, Mr. John Smith, sets out briefly for those not acquainted with the nature of Africa's Colonial veterinary work the general run of duties a veterinary officer might undertake in the course of a day's tour through the countryside. The subjects chosen to illustrate the work done are chiefly those relating to drying of hides for the export market; supervision of village dairying; inspection of cattle, their pens and kraals; advising as to breeding and general care, and a general assessment of the state of health of the cattle in a village. Emphasis is laid on the manner in which native outlook and customs are taken into consideration when giving instruction as to how better results can be obtained by the adoption of improved methods and advising generally concerning the welfare of the livestock and their usefulness to their owners and the community.

* "A Day in the Life of a Veterinary Officer in Africa." Smith, J. (1945.) *The Imperial Review*. XII. 146-147.

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BRITISH MISSION TO STUDY FARM BUILDINGS IN NORTH AMERICA

The Committee appointed by Mr. R. S. Hudson, Minister of Agriculture and Fisheries, to consider the design, layout and construction of farm buildings, recently reported, and the Report is in the printers' hands and will soon be published. One of the Committee's recommendations is that recent developments in farm buildings in America should be studied in order that the fullest information should be made available to farmers, landowners architects and builders in this country.

It has, therefore, been arranged that a small party shall visit America this summer. The party, which expects to be away for two to three months, will consist of: The Earl of Portsmouth, landowner and farmer, and member of the Hampshire War Agricultural Executive Committee: Mr. F. Ward, farmer from Shropshire; Mr. J. Mackie, farmer from Kincardineshire; Mr. A. Thorne, F.R.I.B.A., Architect to the Ministry of Agriculture and Fisheries, and Mr. P. J. Moss, of the Ministry of Agriculture and Fisheries, Secretary of the Farm Buildings Committee.

The Mission will report to the Agricultural Ministers on their return.

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MINISTRY OF AGRICULTURE NEWS SERVICE

Infertility in Cows.—It sometimes happens that a cow alleged to be barren has been found to be carrying a calf. Any diagnosis of infertility that a farmer makes should, therefore, be confirmed by professional examination. Once the existence of infertility is confirmed, the animal should be examined to determine the cause. Sometimes treatment may prove successful and the cow brought into bearing. Where there is no successful treatment, the owner can dispose of the cow for slaughter before her presence in the herd has made her a dead loss.

If a farmer takes advantage of the scheme for the control of diseases of dairy cattle, then his herd receives regular examination and treatment at a fixed fee for infertility, mastitis, contagious abortion and Johne's disease.

* * * * *

Ladder of Success.—These are the main steps in the building up of a successful dairy herd:—

Select a breed suitable to local conditions. Use a succession of good bulls of the same breed and type and never introduce a bull of another breed. Officially record the milk yield of each dairy cow and so discover the uneconomic animals and cull them out. Rear all animals well, for it is during the early rearing period that a calf can be made or marred. Feed according to yields and use good feeding-stuffs, balanced for maintenance and production. Plan cropping for self-sufficiency in good hay, oats, beans and peas, kale, mangolds and good silage. See that the new leys and pastures provide herbage of quality and quantity.

* * * * *

Order of Milking and Fat Percentage.—Genuine milk sometimes falls below the legal minima of 3 per cent. fat and 8½ per cent. solids—not fat. War-time difficulties in feeding and labour shortage have tended to increase the number of cases of this kind.

If the fat percentage of the milk of the herd is low there are four things that may help to improve matters. Firstly, milk at 12 hour intervals as nearly as possible. Secondly, milk the heaviest yielders last at night and first in the morning. Thirdly, make sure stripping is thorough. Fourthly, feed adequate and balanced rations.

When it is known which cows are giving milk low in fat content arrange the order of milking so that their milk is distributed among the churns.

Since a high fat content is hereditary pay strict attention to fat percentages when choosing a stock bull and cows for breeding.

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Summer Liming on Grassland.—Whether grazed or converted into silage or hay, grass is the chief source of the calcium required by stock, particularly young stock for making bone, and milking cows for making milk. A dressing of summer lime on new leys or older grassland will greatly improve the feeding quality of the herbage. Summer liming can take place on meadows directly the hay crop is off and on pastures at any time when the grass is short. Stock should be kept from the limed pastures until there has been a shower of rain to wash the herbage clean. It is, therefore, advisable to lime when there is a forecast of possible rain. If the meadows and pastures are not too acid about one ton per acre of finely ground limestone will result in a richer and more palatable grazing. On soils of an acid nature the dressing may have to be raised to two or three tons of coarse ground limestone, ground chalk or limestone dust.

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A Course on How to Demonstrate.—A livestock demonstration course recently held at the Northamptonshire Institute of Agriculture was attended by technical and animal husbandry officers from 37 War Agricultural Executive Committees in England and Wales. The course lasted three whole days. The object was to consider and discuss the best way to put across to farmers the Ministry of Agriculture's livestock improvement policy.

It was recognised that at dairy cattle demonstrations stress is laid on the fact that improvement in cattle can be brought about by better breeding, feeding and management. But better breeding is not an easy job. A farmer having seen the need for improvement cannot change his animals, as if they were so many farm implements, by going into the market and buying a complete set of new and more efficient tools. He can, however, grade-up his animals to be accepted by those societies that have open herd books. But he must be careful to select the breed most suitable to his conditions. Grading-up is a long-term investment but it is one that is bound to pay a handsome dividend.

Improvement in feeding and management, being directly under the farmer's control, will give quick results, but unless he records the milk production of each cow it is impossible for these results to be interpreted in terms of milk produced for food eaten. Without a proper system of recording a farmer knows little about his

cows and he is at the mercy of any bovine "gold digger" who takes all but gives little in return.

During the course talks were given on the planning and technique of demonstrating and also on microphone technique. The success or failure of any demonstration depends largely upon planning. For example, the patience of an audience is sorely tried by inaudible lecturers and speakers who are over-technical in their remarks.

An innovation at the course was the marking of demonstration animals to show the cuts of meat and just where the choice meat comes from and how the proportion of choice to secondary meat may vary according to breeding and "finish."

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal views of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.

Letters to the Editor should reach the Office not later than by the first post on Monday morning for insertion in following Saturday's issue.

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VETERINARY EDUCATION

Sir,—Your correspondent Mr. J. L. Stewart, commenting in your issue of the 7th inst. upon my letter in that of April 21st, suggests that I indulged in "personalities" when giving an analysis of the signatories of the recent Memorandum *re* Veterinary Education. If the supposed offence lies in the fact that the letter gave categories under which the various signatories came, I would point out that it would have had no value as an analysis otherwise, and that all sections of the profession from practitioners to professors were impartially included. Moreover I stressed also that it was the "privilege and duty of every graduate—irrespective of age, sex, section or country—to study and form personal views upon our varied problems," and I added, "it is in this and no invidious spirit that the analysis is given." I certainly made no reference to the sponsors of the Memorandum which could possibly be construed as "personal," all comments or criticisms being entirely confined to the methods employed—a very different matter. The columns of the *Record* have always been widely and generously open for the discussion of our domestic problems, and I do not doubt they would have been available had the sponsors of the Memorandum desired to take an open plebiscite of the profession "for," or better still, "for or against," its propositions. But instead they elected to undertake a somewhat furtive, secret and selective canvass extending over many months, and ultimately sprang a complete surprise upon the vast majority of the well over 4,000 graduates on our Register. This method is not surmise, for it is openly stated—together with some rather naive excuses—in the covering letter forwarded to the *Record* some three months after the Memorandum itself had been sent to the Council of the Royal College. I believe that such methods were, and trust always will be, regarded as "indelicate at best, unworthy to be followed, and perhaps positively improper," by an overwhelming consensus of professional opinion. In my letter I gave a perfectly plain reason for my view, that it was wrong to send the results of this secret canvass *direct* to Council of R.C.V.S. If Mr. Stewart sees nothing wrong in the secret canvass, he is quite logical in failing to find any thing improper in that procedure, but I am content to think he is in a woeful minority of his fellow members. Mr. Stewart tells us he was here on leave when the Memorandum was brought to his notice. It seems to me of little moment whether his confrères were also at home or at their Empire Stations; what does appear to matter is, that they were selectively approached, whilst the mass of us at home knew nothing of the whole affair.

Yours faithfully,

Sandy Lane, Prestatyn. E. P. Edwards.
July 10th, 1945.

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R.C.V.S. COUNCIL ELECTION

Sir,—In the fourth paragraph of his letter in your issue of the 7th inst., and replying to mine of June 16th, Mr. Steele-Bodger asks me a question *re* the voter and the "punters' pin." What I did "seriously contend" was the duty and responsibility devolving upon all of us to endeavour to find out from past utterances, the issued election addresses, and all other available means, the political convictions of each candidate. On the other hand, Mr. Steele-Bodger, in his original letter of May 26th, discredited the addresses and seemed to scorn all such help or guidance as seemed available to we ordinary mortals—hence the illustration of the "blind punter and his pin."

In his next paragraph, Mr. Steele-Bodger tells me that I was wrong in attributing the word "they" to refer to the Loveday Committee. Very well, I regret the assumption and stand corrected But the matter does not end there, as reference to the quotation seems to make evident. Here it is in full: "Mr. Steele-Bodger insisted *they* should define what they meant by the one-portal system. Did *they* mean one register or one examination? He thought the report in this respect was a sop to the Council and as such was dishonest because *they* said *they* were retaining the one-portal, but it was simply that there was to be one register; that was a one-portal which he did not think mattered two hoots. *What did the report mean by one-portal?*"—the italics are mine and the quotation ends. It will be seen that Mr. Steele-Bodger uses the word "report" twice here, and—perhaps greatly daring—I venture to think he refers in both cases to the Loveday report. He also uses the word "they" four times. I was wrong in assuming that the first "they" referred to the Loveday Committee, but may I ask whether the last two do not mean that body? If so, it seems clear that Mr. Steele-Bodger was asking not only his Council colleagues but also the Loveday Committee to define clearly what they meant by "one-portal," and was being very angry with that body for giving one he "did not think mattered two hoots."

By the way, in giving those two quotations from the September Supplement, I attributed no motives, worthy or otherwise, quoting them only as he very well knows as strong evidence of his support of the continued integrity of the position of our governing body. I have never known my old friend act or speak otherwise than fearlessly and with the highest motives born of his convictions. I should have thought that Mr. Steele-Bodger would have been glad that, in your Editorial discretion, you substituted his description of myself as a "crafty old politician" by something milder, and so saved himself from what savours of mere "vulgar abuse." Instead he now repeats what he originally wrote and emphasises his view of its appropriateness to myself. Well, to me it is still only a joke, if one not in the best of taste, and any ultimate regrets can be his alone. There can only be repentance where there is a "sense of sin," and since I am conscious of none, I have no withdrawals or apologies to make.

Yours faithfully,

Sandy Lane, Prestatyn. E. P. Edwards.
July 11th, 1945.

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THE VETERINARY PROFESSION AND THE HORSE-SLAUGHTERING TRADE

Sir,—Mr. Upton's letter in your issue of July 7th is one that calls for grateful acknowledgment. Not only have those whose recollection of horse practice in its heyday been impressed in the past with the wealth of pathological material rendered available to the profession in the course of the operations of the horse-slaughtering trade, but invariably have they been impressed by the courtesy shown by its employees to all members of the profession in their quest for knowledge.

Yours faithfully,

University of London Club, J. T. Edwards.
21, Gower Street, W.C.1.
July 9th, 1945.

DISEASES OF ANIMALS ACTS, 1894 TO 1937, AND AGRICULTURE ACT, 1937 (PART IV).

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Parasitic Mange*	Sheep Scab	Swine Fever
June 1st. to 15th, 1945 ...	4	2	—	1	37
Corresponding period in—					
1944 ...	5	1	—	—	34
1943 ...	10	—	1	1	20
1942 ...	13	6	—	1	29
Total Jan. 1st to June 15, 1945	52	79	5	38	489
Corresponding period in—					
1944 ...	107	22	6	59	359
1943 ...	153	10	6	99	234
1942 ...	157	22	26	116	215

NOTE.—The figures for the current year are approximate only.
* Excluding outbreaks in Army Horses.